

We claim:

1. A golf ball comprising:  
a solid core and  
a multi-layer cover disposed about the core, the cover having an  
5 overall cover thickness of at least about 3.6 mm (0.142 inches) and a Shore  
D hardness of at least about 60.
2. The golf ball according to claim 1, wherein the core has a PGA  
compression of about 85 or less.
3. The golf ball according to claim 2, wherein the core has a PGA  
compression of from about 20 to about 85.
4. The golf ball according to claim 3, wherein the core has a PGA  
compression of from about 40 to about 60.
5. The golf ball according to claim 1, wherein the difference between the  
coefficient of restitution of the core and the coefficient of restitution of the ball  
is at least about 0.025.
6. The golf ball according to claim 5, wherein the difference between the  
coefficient of restitution of the core and the coefficient of restitution of the ball  
is at least 0.035.
7. The golf ball according to claim 6, wherein the difference between the  
coefficient of restitution of the core and the coefficient of restitution of the ball  
is at least 0.045.
8. The golf ball according to claim 1, wherein the multi-layer cover  
includes an inner cover layer and an outer cover layer, each of which has a  
Shore D hardness of from about 60 to about 80.

9. The golf ball according to claim 8, wherein the multi-layer cover includes an inner cover layer and an outer cover layer, each of which has a Shore D hardness of from about 62 to about 75.

10. The golf ball according to claim 9, wherein the multi-layer cover includes an inner cover layer and an outer cover layer, each of which has a Shore D hardness of from about 65 to about 70.

11. The golf ball according to claim 8, wherein the difference between the Shore D hardness of the inner cover layer and the Shore D hardness of the outer cover layer is no more than 5.

12. The golf ball according to claim 11, wherein the difference between the Shore D hardness of the inner cover layer and the Shore D hardness of the outer cover layer is no more than 2.

13. The golf ball according to claim 12, wherein the inner and outer cover layers have substantially the same Shore D hardness.

14. The golf ball of claim 1, wherein the multi-layer cover has an overall cover thickness of at least 3.8 mm (0.150 inches).

15. The golf ball according to claim 14, wherein the cover has a thickness of at least about 4.0 mm (0.157 inches).

16. The golf ball according to claim 15, wherein the cover has a thickness of at least about 4.5 mm (0.177 inches).

17. The golf ball according to claim 1, wherein the core comprises at least one member selected from the group consisting of natural rubber and polybutadiene.

18. The golf ball according to claim 1, wherein the core comprises a metallocene catalyzed polyolefin.

19. The golf ball according to claim 1, wherein the multi-layer cover comprises an ionomer.

20. The golf ball according to claim 1, wherein the core is sulfur cured.

21. A golf ball, comprising:

a core comprising at least one member selected from the group consisting of polybutadiene and natural rubber, the core having a COR of at least about 0.650; and

5 a cover disposed about the core, the cover comprising an ionomer and having a thickness of at least about 3.8 mm (0.150 inches) and a Shore D hardness of at least about 60, the ball having a coefficient of restitution of at least about 0.770.

22. The golf ball according to claim 21, wherein the core has a PGA compression of less than 85.

23. A golf ball comprising:

a core;

a first cover layer disposed about said core, said first cover layer including a first resin composition and a filler material; and

5 a second cover layer including a second resin composition, said second cover layer disposed about said first cover layer;

said second resin composition being different than said first resin composition, and the difference between the Shore D hardness of said first cover layer and the Shore D hardness of said second cover layer being less  
10 than about 2.

24. A method of making a golf ball, comprising:

forming a solid core, and

forming a thermoplastic cover about the core, the cover having a thickness of at least about 3.6 mm (0.142 inches) and a Shore D hardness of at least about 60.

25. The method according to claim 24, wherein the cover has a thickness of at least about 3.8 mm.

26. The method according to claim 25, wherein the cover comprises an ionomer.

27. A method of making a golf ball comprising:

obtaining a golf ball core;

forming a first cover layer about said core to produce an intermediate  
5 ball;

forming a second cover layer about said intermediate ball to produce  
said golf ball; and

selecting the materials utilized for said first cover layer and said  
second cover layer such that the difference between the Shore D hardness of  
10 said first cover layer and the Shore D hardness of said second cover layer is  
2 or less.